DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-022409
Date Inspected: 04-Apr-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name: William Sherwood and Jesse Cayabyab

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 9W/10W side plate ‘C2’ inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass to cover pass on the splice butt joint at the corner with bottom plate ‘D’ where the track mounted Bug-o nozzle holder has limited access . The welder was observed perform manual welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8” diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with backing bar. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. At the end of the shift, cover pass welding at location mentioned above was completed.

At OBG 10E/11E top deck plate ‘A3’ & ‘A5’ outside, QA randomly observed ABF/JV qualified welder Wai Kitlai perform CJP repair welding. The welder was noted welding in 1G (flat) position utilizing SMAW with 1/8” diameter E7018H4R electrode implementing new Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1003 Repair. The new repair procedure includes putting in place a copper backing alongside the typical steel backing bar when the repair excavation is expected to occur at the edge of the steel backing. The first time welding repairs were excavated to a boat shape profile and were tested with Magnetic Particle Testing (MT) prior welding. During welding, ABF QC Jesse Cayabyab was noted monitoring the welder and his welding parameters. QA noted parameter during welding was 130 amperes which appears in compliance to the WPS. The

locations of the repairs were noted below;

Location	Y-dimension	Length	Width	Depth	Remarks
1. A3	2590mm	100mm	27mm	14mm	Completed (R1)
2. A5	5170mm	110mm	28mm	20mm	Completed (R1)

At OBG 10W/11W edge plate 'B' inside, QA randomly observed ABF/JV qualified welders Fred Kaddu perform plasma arc gouging on the backing bar removal of the welded from the outside splice butt joint. The groove of gouged butt joint was ground smooth and was tested with Magnetic Particle Testing by ABF QC William Sherwood. After the completion and MT acceptance of the backing bar removal, the welder started back welding the butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with steel backing bar. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameters with reading of 138 amperes which appears in conformance to the contract requirements. At the end of the shift, SMAW fill pass welding was still continuing and should remain tomorrow.

During the fit up from the outside on this edge plate, ABF QC William Sherwood informed this QA that there was a misalignment of 4mm from Y=825mm to Y=1015mm on this 28mm thick edge plate. QC also mentioned to QA that this misalignment will be mapped and recorded and an internal QC Incident Report submitted to ABF.

At OBG 10W/11W edge plate 'F' inside, QA randomly observed ABF/JV qualified welders Jorge Lopez perform plasma arc gouging on the backing bar removal of the welded from the outside splice butt joint. The groove of gouged butt joint was ground smooth and it was completed at the end of the shift.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the Complete Joint Penetration (CJP) welding of one (1) top deck and nine (9) lifting lug access hole to top deck plate butt joints. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. OBG 5E-PP31-E4-#1 & 3 lifting lug access hole inside - QA VT verified
2. OBG 5E-PP31-E4-#1 to 4 lifting lug access hole outside - QA VT/MT verified
3. OBG 5E-PP35-E4-#1, 3 & 4 lifting lug access hole outside - QA VT/MT verified
4. OBG 10E/11E top deck plate 'A' outside - QA VT/MT verified

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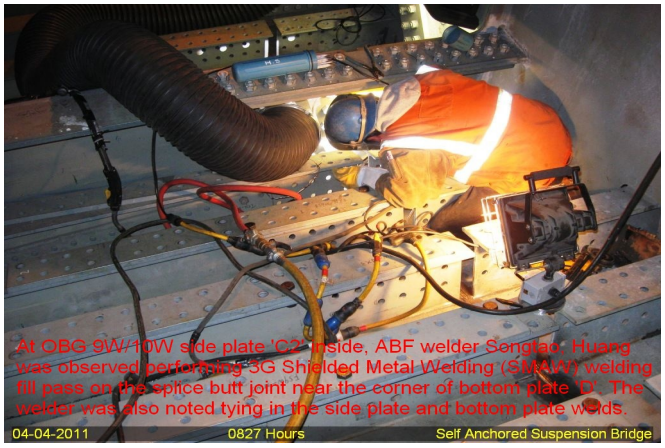

Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer